ACE SLOOP

Kit No. 1102

HISTORY

The Ace Sloop is a pond sailor designed for free sailing in a pool or small pond. And, did I say?, loves to go in one direction. In a light wind, she will go wherever she sets her mind to go. Be it left, right, or where the wind goes. Plan on a day of walking as well as enjoy seeing her sail away. Since this is not of a specific boat, feel free to alter this kit to your hearts content.

INTRODUCTION

Read the entire Instruction Booklet before you begin to build. Enjoy the experience. This kit is fun to build. ***Just remember one very important thing, there are NO model police. It's just a toy.***

When a more detailed explanation is needed to clarify a particular building operation, a detailed drawing is included indicated by a figure number, for example (See FIG. xx). These drawings can then be found on the larger sheets (11 x 17) which will be easier to see and read.

We, who have designed the kit and have written the instructions, have tried to make all of the contents as accurate and correct as possible. Drawings and text have been thoroughly checked and crosschecked. However, due to the variability of material, personal skills, and so on, neither the designer, nor Dumas Products Inc., assumes any responsibility for any damages or other losses incurred resulting from misuse of the material presented here. All instructions and drawings should be carefully studied and clearly understood before beginning this project.

Experienced modelers can jump into building this model and use whatever construction sequence and materials that appeal to them. The less-experienced modelers would do better to follow the steps in the numbered sequence. The model was designed to make its building as foolproof as possible. However, I recognize that nothing is proof against a really determined fool.

Also enclosed is the Parts List. Please do a complete inventory of the kit and contact us at ***1-800-458-2828*** *if anything is missing. To process your order more efficiently, please have the* ***PART NAME AND NUMBER*** *ready when you call.*

TOOLS & MATERIALS NEEDED

Here is a list of additional tools you will need to construct your DUMAS kit.

- X-acto knife (No. 11 and No. 16 blades)
- Ruler
- Medium CA glue (also called "Super Glue") and Accelerator
- Sandpaper - Course (60-80 grit), Medium (100-120 grit), Fine (220-320 grit)
- Paint Brush - 1/4", 1"
- Round File -1/8" dia.
- Polyester Body Filler (Bondo) (Optional)
- Epoxy (Optional)
- Drill bits: (3/64" dia., 1/16" dia., 5/32" dia.)
- Pair of long nose pliers

NOTE: Before you begin construction of this model, check to make sure you have the entire set of 11" x 17" Figure Drawings, (Figures 1 – 20). If you do not have these items, the building of this kit will be very frustrating. If you are missing these drawings, call 1-800-458-2828 to receive your copy.

MARKING THE PARTS

1 You will find the Parts Locator on the last page of this Instruction Book **(See Page 16)**, if you haven't noticed it already.

2 Mark the parts, using the Parts Locator as a guide, with a soft No. 2 pencil.

NOTE: DO NOT punch out any of the parts until they are needed.

BUILDING THE BACKBONE (See FIG. 1)

3 Lay the Backbone (that's the 3/8" x 1/2" x 16-1/4" balsa stick included in the kit) directly over the full-size "SIDE VIEW" layout, and cut/sand both ends to match. **(See FIG. A)** Once you have finished marking the Backbone, remove it from the drawing.

NOTE: Line up the 3/32" dia. hole drilled through the Backbone with its location shown on the drawing to get the proper placement.

4 Lay a sheet of wax paper over the entire "SIDE VIEW" layout, and then lay them both on top of your building board. **(See FIG. 1)**

5 Lay the Backbone strip in position directly over the "BOTTOM VIEW" Layout drawing.

NOTE: The 3/32" dia. hole drilled through the Backbone goes towards the rear end.

BUILDING TIP: If you have a hard building board like I do, then you can just lay a couple of weights on top to keep it in place. If you happen to have a soft building board, like a ceiling tile, then you can use pins to hold it in place. Either way, it has to stay put while the assembling is taking place.

6 Cement Stem A to the front end of the Backbone, and Transom G to the rear end of the Backbone. **(See FIG. 1)**

PREPARING THE FRAMES (See FIG. 2)

7 Cut a 1" long strip from each of the two 1/8" x 1/4" x 18" balsa strips supplied in the kit.

WARNING: DO NOT cut both pieces from the same strip. That strip will then be too short for its intended purpose if you do.

8 Cement one of the two 1" long strips to the BACK of Frame C where shown on the drawing. **(See FIG. 2)**

9 Cement the remaining 1" long strip to the FRONT of Frame D where shown on the drawing. **(See FIG. 2)**

10 Clamp the Keel Plate on top of Support K, with masking tape or clothespins, then match drill a 3/32" dia. hole through each of the two holes provided in the Keel Plate. **(See FIG. 4)**

11 Remove the Keel Plate from Support K, and set the Keel Plate aside for now.

ATTACHING THE FRAMES (See FIG. 3)

12 Lay a piece of wax paper, or Saran wrap over the full-size "BOTTOM VIEW" drawing of the "FRAME LAYOUT". **(See FIG. 3)**

NOTE: This will prevent the parts from sticking to the plan.

13 Pin down the Backbone assembly upside down so that the frames are sticking straight up. **(See FIG. 3)**

14 Cement the remaining Frames B, C, D, E, and F to the Backbone. **(See FIG. 3)**

NOTE: The wood block on Frame C is facing the rear, and the wood block on Frame D is facing the front. Or in other words, both of the little wood blocks are on the Right side for now for this procedure, but will be on the Left side in the final position.

OBSERVATION: All of the frames are perpendicular, (90-degrees) to your building board.

15 Cement Support K in between Frames C and D, up against the two balsa blocks cemented to each. **(See FIG. 4)**

NOTE: The two holes will lie up towards the bottom of the Backbone. You drilled the holes in Support K back in Step 10, remember?

ATTACHING THE KEEL STRIP (See FIG. 5)

16 Cement the two Keel Strips (1/8" x 1/4" balsa strips), in the center notches in the bottom of each frame and to the bottom of Stem A. **(See FIG. 5)**

17 Sand the front ends even with the front of Stem A, and the aft ends even with Transom G.

ATTACHING THE CHINE STRIP (See FIG. 6)

18 Cement a 1/8" sq. x 18" balsa strip in the outside corner notches in each Frame, and to Stem A. **(See FIG. 6)**

NOTE: You will need to bevel the front end of each of the two balsa strips in order for them to sit tightly up against the two 1/8" x 1/4" balsa strips.

19 Trim the end of the strips even with the back of Transom G.

REMOVE THE BACKBONE ASSEMBLY

20 Remove the Backbone assembly from your building board.

ATTACHING THE SHEER STRIP (See FIG. 7)

21 Cement a 1/8" sq. x 18" balsa strip in the outside corner notches in each Frame, and to Stem A. **(See FIG. 7)**

NOTE: The front end of each of the balsa strips will butt up against the back of Stem A, and even with the top edge.

22 Trim the aft end of the strip even with the back of Transom G.

SANDING THE FRAMEWORK

23 Sand all of the edges of all of the frames even with the Chine Strips and the Sheer Strips.

NOTE: If you need to add a scrap strip of wood to the outer edges of a frame to bring them out to match the strips, then do it.

ATTACHING THE SIDE PLANKING (See FIG. 8)

24 Place, DO NOT cement, a Side Plank (that's the two 1/16" x 2" x 18" mahogany sheets supplied in the kit) up against one side of the hull frame, then trace around the frame with a pencil. **(See FIG. 8)**

25 Remove the Side Plank sheet, then cut out the pattern using either a band saw or a utility knife.

BUILDING TIP: You can first cut one pattern out first, then use that as your master and trace around it to get your second piece. Or, if you have a band saw, you can tape the two sheets together, and cut both out at the same time.

26 Cement the two Side Panels, one at a time, to the hull frame. **(See FIG. 8)**

NOTE: Overlap the two Side Panels at the front of the hull for a better joint.

27 Sand the edges of the Side Panels even with the Chine Strips and the Sheer Strips.

ATTACHING THE EXTERNAL KEEL (See FIG. 9)

28 Mark the location of the Keel Plate on the bottom of the two 1/8" x 1/4" balsa strips. Then carefully cut out a slot with a sharp x-acto knife.

OBSERVATION: It's not that hard to do, fact, it goes rather quickly. Just make sure you have a sharp blade, and a straight edge. And, most importantly, don't rush.

NOTE: The width of the slot only needs to be slightly fatter than the width of the Keel Plate. So don't go whole hog with your cutting.

29 Cut two 1" long Pins from the 3/32" dia. x 6" long wood dowel supplied in the kit.

30 Slide the Keel Plate through the slot, then cement it in place. You can use 5-minute epoxy for this procedure, but gap-filling (medium) CA will work too.

31 Slide the two Pins through each hole and cement in place.

ATTACHING THE BOTTOM PLANKING (See FIG. 10)

OBSERVATION: There are four dies supplied in the kit that look the same. Two are for the Deck, and two are for the Bottom Panels. It doesn't matter which ones you use because they are all the same. You can use the two pretty ones for the Deck, and leave the two ugly-looking ones for the bottom since you are going to paint them.

32 Cement the two Bottom Panels to the bottom of the hull frame.

NOTE: You will need to cut a notch in the right panel to fit around the Keel Plate before you cement it in place.

OBSERVATION: The Panels are a tad too big. So you may want to cut them down before you cement them in place to save you some sanding later.

33 Sand the edges of the Bottom Panels even with the Sides and Transom G.

DRILLING THE HOLE FOR THE RUDDER TUBE (See FIG. 11)

34 Turn the hull over so that the boat is sitting upright. You are now looking at the top of the hull.

35 Using the predrilled 3/32" dia. hole in the Backbone as a guide for the drill bit, drill a 3/32" dia. hole through the bottom of the hull. **(See FIG. 11)**

NOTE: Make sure that your drill bit is parallel to the Frame and is centered on the bottom.

OBSERVATION: You will be installing the Rudder Tube later after the Deck as been installed. So don't worry about it at this time.

ATTACHING THE DECK (See FIG. 12)

OBSERVATION: Use the last two of the four remaining dies supplied in the kit that all looked the same. The first two were used for the Bottom Panels, remember?

36 Cement the two Deck Panels to the top of the hull frame.

NOTE: You will need to file a half-moon shape in each panel to fit around the rudder tube hole before you cement them in place.

OBSERVATION: The Panels are a tad too big. You may want to cut them down before you cement them in place to save you some sanding later.

37 Sand the edges of the Deck Panels even with the Sides and Transom G.

SANDING THE HULL

SANDING BLOCK: If you don't have one already, cut a scrap piece of wood, any kind will do, to a size about 3/4" x 2" x 9".

NOTE: If you have any scrap 1 x 4's laying around, this wood will be exactly what you need.

38 Cement a piece of 100-grit sandpaper to one or both sides of the wood block. Rubber cement works best for this application.

39 Sand the entire outside surface of the hull to smooth out any wavy bumps with 100-grit sandpaper.

BUILDING TIP: Sometimes I get impatient, and start sanding with 60-grit. Then jump to 100-grit. Rarely will I go past 150-grit sandpaper at this point in the construction.

40 Fill in any gaps or holes with a wood putty or Bondo.

SEALING THE HULL

Now is the time to seal the hull in order to keep the water from entering the hull. You have at least three basic choices: 1) Spar Varnish, 2) Polyester Resin, or 3) Epoxy.

1) SPAR VARNISH: I have seen Spar Varnish over at Home Depot in the paint department. It's called "SPAR VARNISH". You can also use Polyurethane if you want. Both of these products smell like the dickens, so it is best to use them outside if possible. With either of these varnishes, multiple coats will be needed, as well as sanding in between each coat. Plan on at least 4 to 5 coats. It all depends on whether or not you want to see the grain.

2) POLYESTER RESIN: When shopping around for a polyester resin, look for a "GENERAL PURPOSE" or "ALL PURPOSE" resin. Home Depot or Lowe's will carry it, and even auto supply stores will carry it. Hobby shops may or may not carry it. It all depends on if they want to carry such a flammable product. Normally, two coats of Polyester Resin is that all you need.

If you decide to use the polyester resin you will have to sand between each coat. This isn't too hard of a burden, but you will have to be extra careful sanding the first coats so that you don't sand through to the wood.

Polyester resin is normally supplied with a MEKP liquid catalyst. MEKP is very corrosive to eye tissue, (and it burns like crazy) so be sure to wear eye protection. Polyester resin is catalyzed with very small percentages of MEKP and there is a range of usable ratios. You can speed up the gel and set times by adding more catalyst.

3) EPOXY RESIN: Another option is to use epoxy-finishing resin instead of polyester resin. When shopping around for an epoxy resin, look for Pacer Z-poxy "Finishing Resin". Epoxy resin is typically more fluid than the epoxy glues that you are most familiar with and they sand without clogging the paper. Epoxy finishing resins cost a lot more than polyester resin but they don't have the strong styrene odor, either. Epoxies are a two-component plastic that hardens when the two parts are mixed together. The setting speed is determined by the chemical brew, not by the ratio of one part to the other. The strength of epoxy degrades if the ratio is not followed carefully. Normally, two coats of Epoxy Resin is that all you need.

NOTE: Epoxy Resin is NOT the same as 5-minute epoxy. They are two different animals.

When using epoxy resins, allow more time for it to cure. Epoxy, I have found, takes about 2 hours to dry. (By "dry" I mean that it's not tacky any more) But then you'll have to leave it overnight so that it won't clog the sandpaper. So there's that trade-off; no smell, but takes forever to dry.

You'll need some clean-up solvent to clean your tools and spills. We use acetone at our shop, but lacquer thinner will also work. Be sure that you provide adequate ventilation and be VERY careful about fire or flame.

Rubber or plastic gloves will protect your hands from the sticky, gooey material that you will be using. Highly recommended!

SAFETY: These materials are very flammable; don't use them near fire or flame. You'll also need plenty of ventilation. Since some resins can cause skin irritation, rubber or plastic gloves are a good idea. The catalyst for polyester resin can damage eye tissue. Use eye protection.

TOOLS

The following tools will be useful if you 'glass your boat:

PAPER MIXING CUPS: You'll need a few paper cups to mix your resin. I've used wax-coated cups without problems. A 6 oz. cup will be more than large enough. DO NOT use styrene (plastic) cups, as polyester will "eat it up" before it cures.

MEASURING CUPS: The graduated 1 oz. mixing cups are very handy for measuring out materials accurately. If you are using polyester resin, the drop-metered (squeeze) bottles of catalyst are fine.

BRUSHES: You'll need to get cheap white bristle brushes to apply resin. The home centers usually sell them in bulk. 1" wide brushes are perfect for most applications. Have spares just in case.

The entire exterior of the hull should be sanded smooth and level before you start 'glassing. There is nothing to be gained by using sandpaper any finer that 220 grit.

41 Brush on the material of your choice. Once the entire hull has been covered, set the hull aside to let it cure thoroughly. Overnight is recommended in most applications.

42 Lightly sand the entire surface with either 100-grit or 150-grit sandpaper on the entire hull to smooth out any bumps. Avoid sanding through the resin to the wood hull.

43 Brush on another coat of your choice.

44 Sand the entire hull again with 100-grit to 150-grit sandpaper.

45 Repeat as needed.

INSTALLING THE RUDDER TUBE

46 Clean out the 3/32" dia. hole through the Deck if any varnish or resin has gotten in.

47 Epoxy the Rudder Tube (3/32" dia. x 1-3/4" brass tube) into the hole previously drilled. The top end of the Rudder Tube must be about 1/16" above the top of the Deck which would leave about a 1/16" of the tube showing on the bottom. Slide the Tube up and down until the spacing is about the same. **(See FIG. 21)**

48 If you did a sloppy job of drilling, putty around the brass tube to clean up any gaps. Use a putty (like Bondo or Squadron Green Putty) for best results.

NOTE: Even if you did a beautiful job, putty around the brass tube to seal it anyway.

PAINTING

Now is the time to think about painting the model before you get into the Masts and Rigging. As far as we can ascertain from various sources, the color scheme for these sailboats varied from owner to owner. In the end, though, the color of your sailboat is entirely up to you. To eliminate fish eyes, oils, and dirt, wipe parts with rubbing alcohol on a clean rag before spray painting. Suggested colors are listed below:

Testors Enamel (Spray)

GLOSS WHITE		Hull sides, Hull bottom, Deck

BUILDING THE RUDDER/TILLER (See FIG. 13)

49 Cut the Rudder Blank (.04 x 1-1/2" x 1-3/4" PVC) to match the full-size pattern. **(See FIG. 13)**

NOTE: Due to the copy machine stretching drawings, the pattern may or may not be exact. If it's close, that's fine, because it's just a toy.

50 Cut off a 1" piece from the 3/64" dia. x 12" brass rod, and put it aside for now. This short piece will be used for the Mast Pin later in the building sequence.

51 Bend up one end of the remaining length of 3/64" dia. x 11" brass rod to match the partial full-size drawing. **(See FIG. 13)**

52 Cement the Rudder Blank to the brass rod. Use gap-filling (medium) CA glue for this procedure.

BUILDING TIP: If your Rudder keep breaking off, cement additional plastic or metal strips over the brass rod to trap it in place.

53 Paint the Rudder to match your hull.

54 Insert the long free end of the wire up through the 3/32" dia. brass Rudder Tube, and using a pair of long nose pliers, finish bending the wire to shape. Trim any excess as needed.

OBSERVATION: Yes, I know that the brass rod can't be laid over the full-size drawing, but if you use a ruler, you can get pretty close. It doesn't have to be exactly the same, but if its close, you'll be fine. Relax, it will still work.

DECK DETAILS (See FIG. 14)

55 Drill the six necessary 3/64" dia. holes as required in the Deck using the dimensions shown on the drawing. These holes will be used for the Screw Eyes. **(See FIG. 14)**

56 Screw in a Screw Eye into each hole previously drilled.

NOTE: Make sure that ALL of the "eyes" are facing the same direction off to the side.

57 Cement the Mast Step Plate to the top of the Deck using the dimensions shown on the drawing. **(See FIG. 14)**

58 Using the Mast Step Plate as a guide, match drill a 3/64" dia. hole through each of the 3 holes in the Mast Step Plate through the Deck.

THIS NOW COMPLETES THE CONSTRUTION OF THE HULL. Proceed now to the Rigging.

BUILDING THE MAST, BOOM, and JIB CLUB (See FIG 15-18)

MAST

59 Go get the 1/4" dia. x 21-1/4" long wood dowel somewhere in the kit box, then round over the top to finish it off as shown on the drawing. **(See FIG. 15)**

NOTE: The pre-drilled 3/32" dia. hole for the Fore Stay goes towards the top.

60 Drill three 3/64" dia. holes, two towards the top, and one towards the bottom where shown on the drawing for the Screw Eyes. **(See FIG. 15)**

61 Drill a 3/64" dia., 1/2" deep hole at the very bottom of the Mast where shown on the drawing for the brass Pin. **(See FIG. 15)**

62 Go find the 1" long brass Pin that you cut from the 3/64" dia. brass rod, back in Step 50, remember?

63 Cement the Pin into the very bottom hole previously drilled, so that the Pin is sticking out 1/2".

64 For added strength, wrap the bottom of the Mast with thread, about 1/4" high should do it. This will keep the mast from splitting.

MAIN SAIL

65 Unroll the Sails, and iron them using a low heat.

BUILDING TIP: Place the Sail in between two towels so that the Sails won't melt.

66 Attach the 5 Mast Rings (they are called Split Rings in the kit), equally spaced, to the front edge of the Main Sail as shown on the drawing. **(See FIG. 16)**

BUILDING TIP: Use a needle to pierce the sail material. Tie the thread to the Sail first, then tie the Mast Ring to the Sail. A little drop of CA glue on each knot will keep it together. Trim off the excess thread ends, and you are ready to go. To pierce the Sail, I used a big fat needle. It didn't tear the material.

67 Slide the Main Sail on to the Mast, up from the bottom.

MAST (CONTINUED)

68 Screw a Screw Eye into the three holes previously drilled where shown on the drawing. **(See FIG. 15)**

NOTE: As regards to the bottom Screw Eye, open up the "eye" a little so that the Screw Eye at the end of the Boom slips inside it.

BUILDING TIP: To open up the eye, you will need two pairs of pliers; one to grab the threaded end of the Screw Eye, and a long nose pair to squeeze through the "eye" to open it up. Test fit a Screw Eye a little at a time so that you have just enough of the eye opened up to pass it through.

69 Carefully, screw on a Screw Eye on one end of the Spreader Bar (3/32" dia. x 2-1/2" brass tube), then slide the Spreader Bar through the hole previously drilled.

BUILDING TIP: The little Screw Eye is hard to get started inside the brass tube. You will need to use two pairs of pliers, one to grab the brass tube (without squishing it) and the other pair to hold on to the Screw Eye while you are turning it. ONLY SCREW THE SCREW EYE IN HALF WAY. In other words, only about half of the threads will go in. You will see some of the thread showing. **WARNING: If you try and force it, the Screw Eye will snap off.**

70 Screw on another Screw Eye on the opposite end of the Spreader Bar.

NOTE: Make sure that both of the "eyes" are facing the same direction.

71 Center the Spreader Bar on the Mast, then cement the Spreader Bar to the Mast.

NOTE: Make sure that both of the "eyes" are facing UP.

72 Set the Mast/Sail off to the side until the Boom has been made.

BOOM (See FIG. 17)

73 Go get the 3/16" dia. x 10" long wood dowel somewhere in the kit box, and cut it down to 9-3/4" long. Round over the top to finish it off. **(See FIG. 17)**

74 Drill three 3/64" dia. holes, one out towards each end, and one at the bottom where shown on the drawing for the Screw Eyes. **(See FIG. 17).**

75 Screw a Screw Eye into each holes previously drilled.

76 For added strength, wrap the end of the Boom with thread, about 1/4" high should do it. This will keep the boom from splitting.

77 Slide the Screw Eye at the end of the Boom into the bottom Screw Eye on the Mast, then with a pair of pliers, gently squeeze the "eye" to close it back up.

78 Attach the Sail to the Boom by whip stitching it with a 24" piece of thread to the Boom. **(See FIG's. 16 & 19)**

BUILDING TIP: I tied the thread to the front corner (Tack) first, then using a needle, I stitched the Sail to the Boom. The thread is then tied to the last hole at the rear corner (Clew). A drop of CA glue at each knot, held it all together. Then the excess thread is trimmed away. You want to have a nice firm grip of the Sail to the Boom, but not too tight, where it doesn't move back and forth.

JIB CLUB (See FIG. 17)

79 Go get the 3/16" dia. x 5" long wood dowel somewhere in the kit box, and cut it down to 4-3/4" long. Round over the top to finish it off. **(See FIG. 17)**

80 Drill two 3/64" dia. holes, one out towards the end, and one at the bottom where shown on the drawing for the Screw Eyes. **(See FIG. 17).**

81 Screw a Screw Eye into each holes previously drilled.

82 For added strength, wrap the end of the Jib Club with thread, about 1/4" high should do it. This will keep the boom from splitting.

83 Attach the Jib Sail to the Jib Club by whip stitching it with a 12" piece of thread to the Jib Club. **(See FIG's. 16 & 19)**

BUILDING TIP: I tied the thread to the front corner (Tack) first, then using a needle, I stitched the Sail to the Jib Club. The thread is then tied to the last hole at the rear corner (Clew). A drop of CA glue at each knot, held it all together. Then the excess thread is trimmed away. You want to have a nice firm grip of the Sail to the Jib Club, but not too tight, where it doesn't move back and forth.

RIGGING THE BOAT MODEL

There are two types of rigging on a sailboat: the Standing Rigging, and the Running Rigging. The Standing Rigging, consisting of the Fore Stay, Side Stays (Shrouds), and the Back Stays, holds the mast in place to equalize all of the forces during normal operation, while the Running Rigging consisting of the Halyards, adjust the Sail as needed.

This is how a normal sailboat is laid out. However, since this model can be transported, the Fore Stay, Shrouds, and Back Strays are adjustable using a small Bowser (See below).

Included in the kit, is a short length of a brass-colored piece of chain with five sections (links). These five links, when you take them apart, are what we will call "S-hooks". You can spread these little links apart using a long nose pair of pliers. Don't open them up too much, just enough to hold everything in place.

BUILDING TIP: *When passing the cord through a small hole, frustration will mount if you don't have the end of the cord down to a fine tip. To make a needle point on the thread, simply saturate the end of the cord with super glue (about 1" long), spray the area with Accelerator to solidify the glue instantly, then cut it at a sharp angle, and there you have it.*

BOWSERS (See FIG. 19)

84 Cut the .04 x 3/16" x 7-1/2" plastic into nine pieces, 3/4" long each.

85 Drill three holes, 3/64" dia., down the center as shown on the drawing. **(See FIG. 19)**

86 Round over the four outside corners to soften them up

STANDING RIGGING (See FIG. 19)

87 Place the Mast assembly onto the Deck so that the Pin at the bottom of the Mast is inserted into one of the three holes.

NOTE: The center hole is a good starting point. You can always adjust it later.

88 Attach four S-hooks, three to the three Screw Eyes on the Deck, and one to the Rudder Tiller at this time. **(See FIG. 19)**

89 **FORE STAY:** Cut a 30" length of line, then tie one end to the Screw Eye at the top/rear of the Mast.

90 Run the opposite end of the line through the hole at the very top of the Mast, through the two top holes in the Bowser, down through the S-hook, attached to the Screw Eye on Deck, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

91 **BACK STAY:** Cut a 30" length of line, then tie one end to the Screw Eye at the top/rear of the Mast.

92 Run the opposite end of the line through the two top holes in the Bowser, down through the Screw Eye on Deck, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

93 **SHROUDS:** Cut a 60" length of line, then tie the line, at the center of the line, to the Screw Eye at the top/rear of the Mast.

94 Run the two opposite ends of the line through the hole at the very top of the Mast, through two top holes in the Bowser, down through the S-hook, attached to the Screw Eyes on Deck, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

RUNNING RIGGING (See FIG. 19)

95 **MAIN HALYARD:** Cut a 15" length of line, then tie one end to the upper top corner (Head) of the Main Sail.

BUILDING TIP: You will need to drill a 1/16" dia. hole for the line to pass through. However, before you do this, since this nylon material doesn't like to get drilled, you will need to saturate the area with CA glue and let dry before you even think about drilling the hole. Once the CA glue has cured, drilling the hole, slowly, is a snap.

96 Run the opposite end of the line up through the Screw Eye at the top/rear of the Mast, through the two top holes in the Bowser, down through Screw Eye at the front of the Mast, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

97 **JIB HALYARD:** Cut a 12" length of line, then tie one end to the upper top corner (Head) of the Jib Sail.

BUILDING TIP: You will need to drill a 1/16" dia. hole for the line to pass through. However, before you do this, since this nylon material doesn't like to get drilled, you will need to saturate the area with CA glue and let dry before you even think about drilling the hole. Once the CA glue has cured, drilling the hole, slowly, is a snap.

98 Run the opposite end of the line up through the Screw Eye at the front of the Mast, through the two top holes in the Bowser, down through Screw Eye at the front of the Mast, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

99 **RUDDER TILLER SHEET:** Slide the rubber band on to the Tiller.

100 Cut a 12" length of line, then tie one end to the rubber band.

101 Run the opposite end of the line through the two top holes in the Bowser, over through the Screw Eye on Deck, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

102 **MAIN SHEET:** Cut a 24" length of line, then tie one end to the S-Hook at the end of the Rudder Tiller.

103 Run the opposite end of the line up through the Screw Eye at the rear of the Boom, through the two top holes in the Bowser, down through Screw Eye towards the front of the Boom, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

104 **JIB SHEET:** Cut a 18" length of line, then tie one end to the Screw Eye at the end of the Jib Club.

105 Run the opposite end of the line up through the Screw Eye on Deck, through the two top holes in the Bowser, down through Screw Eye at the front of the Deck, then back up through the last hole in the Bowser. Tie a knot, trim off the excess, and slide the Bowser until the line is taut.

BUILDING THE STAND (See FIG. 20)

There is no wood provided in the kit to build a stand. However, I drew up a nifty-little "X" style stand, which you may or may not want to build, for your sailboat. It's up to you. The drawing IS NOT full-size, but there are plenty of dimension to show you the construction.

You will need the following material to construct the Stand as shown:

1 – 1/4" x 1/2" x 36" Basswood Strip

1 – 3/16" dia. x 18" wood dowel

1 – 1/4" x 24" Ribbon, or Cord

106 Cut the 1/4" x 1/2" basswood strip into four pieces, 6" long each, to match the drawing. **(See FIG. 20)**

107 Round over each end to decorate as desired.

108 Cut the 3/16" wood dowel into four pieces: two at 3/4" long (Pins), one at 7" long, and one at 7-1/2" long. **(See FIG. 20)**

109 Drill a 3/16" dia. holes in the center of each basswood strip where shown on the drawing.

BUILDING TIP: After you have cut and sanded the basswood strips to shape, tape two strips together (to make two sets), and drill through each set where indicated. That way the holes will line up exactly. If you are super good, you can tape all four strips together, and just drill once for each hole. A drill press works great here.

110 Slide the 3/4" long dowels (Pins) into the center hole, and ONLY cement them to the OUTSIDE Legs.

111 Slide the 7" and the 7-1/2" long dowels into the bottom holes, and cement them to each Leg.

NOTE: Place the Stand on top of your work bench while the glue dries so that it doesn't rock back and fourth.

112 Drill a 3/64" dia. hole through each of the four legs.

113 Cut the cord to 5" long. You need two of them.

114 Make a knot at one end, then pass it through the holes in a pair of legs.

115 Make a knot at the opposite end. Place a drop of CA glue at each knot. Trim off the excess.

116 Paint or stain the Stand to taste. (I left our stand natural wood)

ACE SLOOP
Kit No. 1102

MATERIAL LIST

QTY.	PART NO.	DESCRIPTION	USE
1		Plan (1 @ 12" x 24")	
1		Instruction Manual and Figure Drawings (11 x 17 size sheets)	
1 pr	39-148	Sails	
1		Keel (Galvanized metal plate w/weight)	
WOOD			
1	DC-1	B, C, D, E, F, G, K	Mahogany Veneer 1/16"
4	DC-2	Deck Panels, Bottom Panels	Mahogany Veneer 1/16"
2		Mahogany (Sheet) – 1/16" x 2" x 18"	Side Panels
4		Balsa (Strips) – 1/8" sq. x 18"	Chine & Sheer strips
2		Balsa (Strips) – 1/8" x 1/4" x 18"	Center Keel
1		Balsa (Strip) – 3/8" x 1/2" x 16-1/4"	Backbone
DOWELS			
1		Dowel – 3/32" dia. x 6"	Keel Pins
1		Dowel – 3/16" dia. x 4-3/4"	Jib Club
1		Dowel – 3/16" dia. x 9-3/4"	Boom
1		Dowel (Drilled-3/32" dia.) – 1/4" dia. x 21-1/4"	Mast
MISCELLANEOUS			
1		Pine (Triangle Block) – 3/4" x 7/8" x 1-1/2".	Stem A
1	27-136	Brass (Tube) – 3/32" dia. x 1-3/4" lg.	Rudder Tube
1	27-137	Brass (Tube) – 3/32" dia. x 2-1/2" lg.	Spreader Bar
1	59-167	Brass (Rod) – .047" dia. x 12"	Tiller Arm, Mast Pin
1		PVC (Sheet) - .04 x 1-1/2" x 1-3/4"	Rudder Blank
1	25-165	Birch Ply (Block) (w/3-holes) - 1/8" x 1/4" x 1-1/4"	Mast Plate
1		Styrene (Strip) - .04 x 3/16" x 7-1/2"	Bowsers
1	39-109	#20 Chain – 5 link piece	S-hooks
5	39-104	Split Rings	Mast Rings
1	39-106	#10 Rubber Band	Tiller Arm tension
16	23-111	Screw Eyes	
1	59-102	Nylon Line – #6 x 20'	Rigging

THANKS

We appreciate your confidence in our product as expressed by your purchase of this kit. We hope that you have enjoyed building and operating the Dumas model kit and hope that we can be of service to you in the future.

Good luck and happy boating.

Dumas Products Inc
909 East 17th Street
Tucson, Arizona 85719
(520) 623-3742
FAX (520) 620-1329

www.dumasproducts.com

DIE-CUT PARTS LOCATOR